

1. A method for reducing artifacts in ultrasound imaging of anatomical tissue, comprising the steps of:

- a) receiving at least two calibration signals of imaging ultrasound waves that have been reflected from different regions in the anatomical tissue;
- b) deriving a correction signal from the calibration signals;
- c) subtracting the correction signal from a signal of an imaging ultrasound wave to derive a corrected signal; and
- d) displaying an image using the corrected signal.

2. The method of claim 1, wherein the correction signal is derived by averaging of the calibration signals.

3. The method of claim 2, wherein the correction signal is derived by weighted averaging of the calibration signals.

4. The method of claim 3, wherein the weighted average assigns a higher weight to the calibration signals that are not correlated to a prior calibration signal.

5. The method of claim 1, further including the step of displaying an image using the uncorrected signal.

6. The method of claim 1, wherein the artifacts to be reduced are caused by main bang and ringdown signals.

7. The method of claim 1, wherein the artifacts to be reduced are caused by acoustic reflection from an intervening structure.

8. The method of claim 1, wherein:

- a) the correction signal is updated by receiving at least one additional calibration signal and averaging the additional calibration signal and the calibration signals previously received;

b) the updated correction signal is subtracted from a signal of an imaging ultrasound wave to derive an updated corrected signal; and

c) an image is displayed using the updated corrected signal.

9. The method of claim 1, wherein the anatomical tissue is moved such that the calibration signals are reflected from different regions.

10. The method of claim 9, wherein the movement of the anatomical tissue is accomplished by respiration.

11. The method of claim 1, wherein a transducer is moved such that the calibration signals are reflected from different regions.

12. The method of claim 1, wherein the step of receiving the calibration signals is conducted using at least ten calibration signals.

13. The method of claim 1, wherein the correction signal is set to zero from time to time and a new correction signal is obtained by receiving additional calibration signals and averaging the additional calibration signals to derive a new correction signal, subtracting the new correction signal from a signal of an imaging ultrasound wave to derive a corrected signal and displaying an image using the corrected signal.

14. The method of claim 13, wherein the correction signal is set to zero at regular intervals.

15. The method of claim 13, wherein an operator may elect to set the correction signal to zero.

16. The method of claim 13, wherein the correction signal is set to zero when there is a change in system conditions.

17. The method of claim 13, wherein the correction signal is set to zero based upon an analysis of the corrected signal.

18. The method of claim 13, wherein the correction signal is set to zero based at least in part upon an average amplitude of at least a portion of the corrected signal.

19. The method of claim 13, wherein the correction signal is set to zero when there is a change in temperature of a transducer.

20. The method of claim 1, further including the step of displaying an image using the correction signal.

21. A method for reducing artifacts in ultrasound imaging of anatomical tissue, comprising the steps of:

a) receiving at least two calibration signals of imaging ultrasound waves that have been reflected from different regions in the anatomical tissue;

b) deriving a correction signal by weighted averaging of the calibration signals, where the weighted average assigns a higher weight to calibration signals that are not correlated to a prior calibration signals;

c) subtracting the correction signal from a signal of an imaging ultrasound wave to derive a corrected signal;

d) displaying an image using the corrected signal;

e) updating the correction signal by receiving at least one additional calibration signal and averaging the additional calibration signal and the calibration signals previously received;

f) subtracting the updated correction signal from a signal of an imaging ultrasound wave to derive an updated corrected signal; and

g) displaying an image using the updated corrected signal.

22. The method of claim 21, further including the step of displaying an image using the uncorrected signal.

23. The method of claim 21, further including the step of displaying an image using the correction signal.

24. The method of claim 21, wherein the correction signal is set to zero from time to time and a new correction signal is obtained by receiving additional calibration signals and averaging the additional calibration signals to derive a new correction signal, subtracting the new correction signal from a signal of an imaging ultrasound wave to derive a corrected signal and displaying an image using the corrected signal.